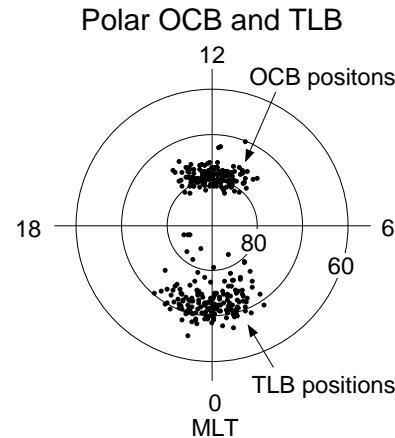
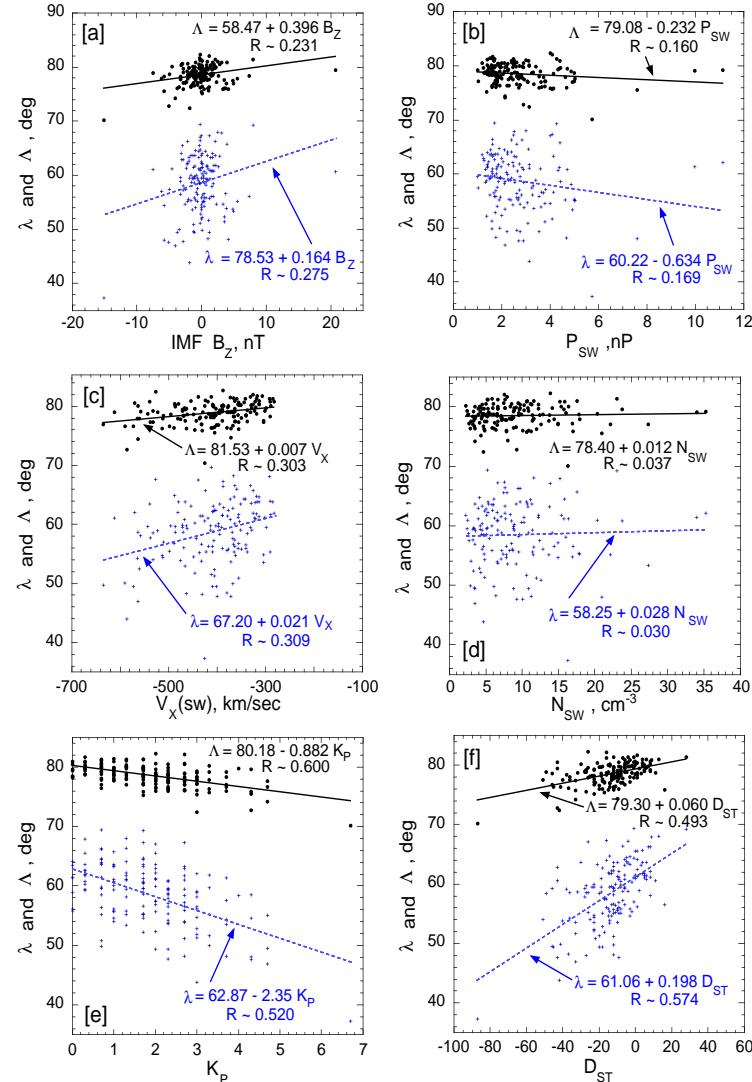


**Fig.2** Distribution of K<sub>p</sub> (a), D<sub>ST</sub> (b), solar wind pressure, P<sub>SW</sub> (c), IMF B<sub>Z</sub> (d), solar wind speed, V<sub>SW</sub> (e), and solar wind density, N<sub>SW</sub> (f) for the period of the Polar dayside OCB observations.

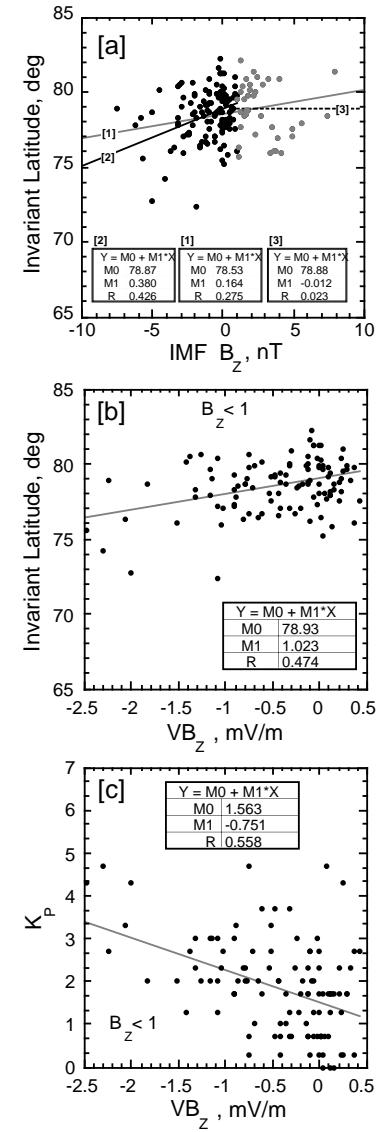


**Fig. 3.** Positions of OCB (near MLT  $\sim 12$ ) and TLB (near MLT  $\sim 0$ ) in invariant latitude ( $\Lambda$ ) versus MLT for the Polar data (see text).

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**Fig. 4.** Plots of the OCB invariant latitude ( $\Lambda$ ) and magnetic latitude ( $\lambda$ ) versus IMF B<sub>Z</sub> (panel a), solar wind pressure P<sub>SW</sub> (panel b), solar wind speed V<sub>GSM</sub> (panel c), solar wind density N<sub>SW</sub> (panel d), K<sub>p</sub> (panel e) and D<sub>ST</sub> (panel f) for Polar traversals of the dayside regions. The top group of points in each frame are plotted in  $\Lambda$  and the bottom group are plotted in  $\lambda$ .



**Fig. 5.** OCB distributions: Panel [a] shows L versus IMF B<sub>Z</sub> with fits for all points [1], B<sub>Z</sub> < 1 nT [2], and B<sub>Z</sub> > 0 nT [3]; Panel [b] shows L versus VB<sub>Z</sub> in mV/m for B<sub>Z</sub> < 1 nT; Panel [c] shows K<sub>p</sub> versus VB<sub>Z</sub>